

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Appl. No. : 10/082,874 Confirmation No. 4966
Applicant : Diez et al.
Filed : February 26, 2002
TC/A.U. : 2655
Examiner : Vo, Huyen X.

Docket No. : 02-171
Customer No. : 34704

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

Corrected Appeal Brief under 37 CFR 41.37(c)(1)

This Appeal Brief is submitted in support of the Notice of Appeal which was filed on January 30, 2006, and responsive to the Notice of non-compliant Appeal Brief which was mailed on July 28, 2006. A Request for Extension of Time accompanies this Brief to request extension of the period for filing the Corrected Appeal Brief to expire on September 28, 2006.

(i) **Real party in interest** - The real party in interest for this Appeal is the assignee, Carrier Corporation.

(ii) **Related appeals and interferences** - There are no known related interferences and/or appeals.

(iii) **Status of claims** - The claims are as listed in the response mailed January 25, 2006 and as set forth in the accompanying Appendix. Thus claims 1-25 are pending in the case and all are rejected and appealed.

(iv) *Status of amendments* - A response was filed subsequent to the final rejection from which this Appeal is taken, but that response contained no claim amendments. Thus, there are no non-entered amendments.

(v) *Summary of claimed subject matter* - The present invention is drawn to a control system for HVAC equipment which allows for voice activated control while overcoming the problems associated with the noise made by the appliance. As set forth in the specification, typical air conditioners make in excess of 60 db A when operating, and this noise can greatly interfere with successful sound communication which is the goal of the present application. This problem is solved in the present invention which provides a speech command receiving member at a location remote from the appliance, out of the zone of noise which interferes with proper operation.

Present independent claims 1 and 15 are drawn to a system and a module itself drawn to the above subject matter. In addition, dependent claims 24 and 25 include specifically that the module is positioned outside of a noise zone with respect to the HVAC component.

Claim 1 specifically calls for a control system 12 (specification, page 3, lines 2-7) for a heating, ventilating or air conditioning (HVAC) system 10 (specification, page 3, lines 4-7), comprising: a remote command receiver 14 (specification, page 3, last 4 lines, through page 4, lines 3) for receiving HVAC system instructions for said HVAC system; and a control module 12 (specification, page 3, lines 26-29), comprising: (i) a speech receiving member 16 (specification, page 4, lines 4-

12) for receiving speech commands; and (ii) a converter 18, 20, 22 (specification, page 4, lines 16-24) for converting said speech commands to HVAC system instructions; wherein said control module is communicated with said remote command receiver for conveying said HVAC system instructions from said control module to said remote command receiver (specification, page 4, line 24-page 5, line 2).

Claim 15 calls for a control module 12 (specification, page 3, lines 26-29) for controlling a heating, ventilating or air conditioning (HVAC) system, comprising: a speech receiving member 16 (specification, page 4, lines 4-12) for receiving speech commands; a converter 18, 20, 22 (specification, page 4, lines 16-24) for converting said speech commands to HVAC system instructions; and a transmitter 24 (specification, page 4, lines 28-31) for transmitting said HVAC system instructions to said HVAC system.

(vi) *Grounds of rejection to be reviewed on appeal* -

There is one single ground of rejection to be reviewed on appeal, specifically, the rejection of claims 1-25 under 35 USC 103(a) as being unpatentable over US 6,397,186 to Bush et al. (hereafter "Bush et al.") in view of US 6,584,439 to Geilhufe et al. (hereafter "Geilhufe et al.").

(vii) *Argument* -

Claims 1-25 are discussed below, grouped together as appropriate depending upon arguments relevant to same.

Independent claim 1 is drawn to a system as described above. The Examiner relies upon Bush et al for teaching

the control of appliances using an intermediate control module which is voice controlled and sends commands to various devices. The Examiner acknowledges that Bush et al. make no reference to such a control system for an HVAC device, but rather relies upon Geilhufe et al. for such teaching.

Geilhufe et al. teaches a system for controlling voice controlled devices and mentions controlling air conditioners. The teaching of Geilhufe et al. is clearly drawn to air conditioners with built in voice control. This is clear from a consideration of Figure 2 wherein unit 102I is said to represent "white goods" such as freezers, refrigerators, washers, dryers, air conditioners, heating units, microwave ovens, ovens, and stoves. Figure 2 shows the elements of such a device as a single unit, i.e., with built in voice control capability. The Examiner in making the asserted combination of art selects only the air conditioning teaching of Geilhufe et al. without the actual taught structure, and in fact removes or ignores the built in voice control capability of Geilhufe et al. as taught in Figure 2.

A person of skill in the art, considering Geilhufe as a whole as he must, would recognize that Geilhufe already provides for voice activated control of the appliance directly to the appliance, and therefore that the device of Bush is not at all necessary. The device of Geilhufe can already be voice controlled, and thus there is no reason to combine this teaching with Bush et al. Thus, it is submitted that the rejection of claim 1 as constructed by the Examiner impermissibly selects only a portion of the teaching from Geilhufe and ignores the rest of this

teaching. Further, no motivation is apparent as to why a person skilled in the art would make this modification.

The Examiner in the last office action pointed to Geilhufe at col. 11, lines 61-67, as teaching that the remotely controlled device can be remotely controlled via wireless or wired means, and that the device can be HVAC. The wireless or wired means referred to in Geilhufe is telephone communications. (See column 12, lines 2-5. Thus, the teaching of Geilhufe relates to controlling an HVAC device over the telephone.

For these reasons, the rejection of claim 1 is in error and should be reversed.

Independent claim 15 calls for subject matter similar to that of claim 1. The rejection of claim 15 is as set forth above, and this rejection should be reversed for the same reasons set forth supporting claim 1.

Claims 2-14 depend directly or indirectly from independent claim 1, and are believed to be allowable based upon this dependency.

Claims 16-23 depend directly or indirectly from independent claim 15, and are believed to be allowable based upon this dependency.

As to claims 24 and 25, the Examiner states (1) that these claims would require further searching and consideration, and (2) rejects them stating that the claimed positioning would be obvious.

It is noted that the last response was to a non-final rejection. Under such circumstances, the fact that newly added claims might require additional searching or consideration is not a ground for rejecting the claims, or for giving them anything less than full consideration. If

these claims have not been fully considered, the application should be remanded to the Examiner for proper consideration of the claims.

Further, the assertion that the subject matter of these claims, that is, positioning the control module outside of the 60 db A noise zone as set forth in claims 24 and 25, would be obvious to a person skilled in the art is completely unsupported by any of the art of record. Nothing in the art of record discloses or suggests the location of the speech receiving member other than Geilhufe et al., wherein the speech command receiver is incorporated into the device itself, and is therefore well within the noise zone of the appliance. No teaching or suggestion from the art of record would lead a person skilled in the art to recognize the issue of the noise of the HVAC appliance being controlled and interference by this noise with proper recognition of a speech command. In fact, the teaching of Geilhufe actually teaches away from the subject matter of claims 24 and 25. These claims are therefore clearly patentable over the art of record and their rejection over Bush et al. and Geilhufe et al. should be reversed.

Dependent claims 2-14 and 16-23 all depend directly or indirectly from claim 1 or 15,

Conclusion

The application contains two independent claims. Each of these claims as set forth above clearly contains allowable subject matter. All claims have been rejected, and it is respectfully submitted that these rejections are in error.

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Reversal of the rejection of these claims is therefore earnestly solicited.

(viii) **Claims appendix** - Attached hereto is a Claims appendix containing all claims in the application and which form the basis for this appeal.

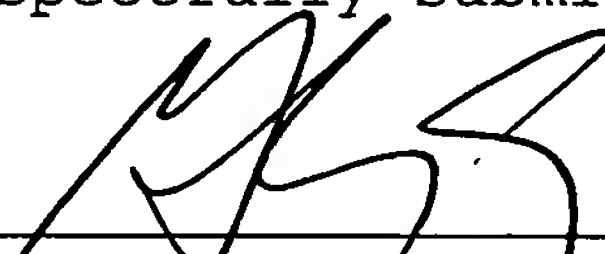
ix) **Evidence appendix** - None.

x) **Related proceedings appendix** - None.

Please charge the fee of \$250 for filing this Appeal Brief, as well as any other fee or fee deficiency which may be due, to Deposit Account 02-0184.

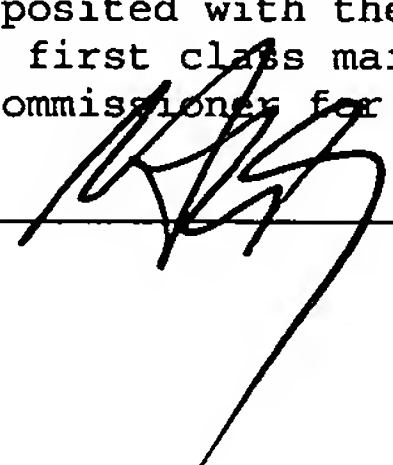
Respectfully submitted,

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Dated September 28, 2006

I, George A. Coury, hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Appeal Brief-Patents "Commissioner for Patents" P.O. Box 1450, Alexandria, VA 22313-1450 on Sept. 28, 2006



Claims Appendix
Listing of Claims:

1. A control system for a heating, ventilating or air conditioning (HVAC) system, comprising:

a remote command receiver for receiving HVAC system instructions for said HVAC system; and

a control module, comprising:

(i) a speech receiving member for receiving speech commands; and

(ii) a converter for converting said speech commands to HVAC system instructions; wherein said control module is communicated with said remote command receiver for conveying said HVAC system instructions from said control module to said remote command receiver.

2. The system of claim 1, wherein said control module further comprises a transmitter for transmitting said HVAC system instructions to said remote command receiver.

3. The system of claim 2, wherein said transmitter is a wireless transmitter, and said remote command receiver is a wireless receiver.

4. The system according to claim 2, wherein said transmitter and said remote command receiver are communicated by wireless communication selected from the group consisting of light-based communication, radio communication and combinations thereof.

5. The system according to claim 2, wherein said transmitter and said remote command receiver are communicated by light-based communications.

6. The system according to claim 2, wherein said transmitter and said remote command receiver are communicated by infrared communications.

7. The system of claim 1, wherein said control module further comprises an indicator member for identifying a received speech command.

8. The system of claim 7, wherein said control module further comprises a storage member for storing known speech patterns and corresponding indicators, and wherein said control module is adapted to compare said received speech command with said known speech patterns and to output an indicator corresponding to said received speech command.

9. The system of claim 8, wherein said indicator member is a speech simulator and said corresponding indicators are signals for generating speech.

10. The system according to claim 8, wherein said storage member also stores commands for generating HVAC system instructions corresponding to said known speech patterns whereby said control module acknowledges said received speech command and transmits corresponding HVAC system instructions.

11. The system of claim 1, wherein said control module further comprises a neural network adapted to train said control module for receiving personalized speech commands, and a storage member for storing personalized speech data and corresponding HVAC system instructions.

12. The system according to claim 1, wherein said control module further comprises a base member adapted for supporting said module on a flat surface.

13. The system according to claim 12, wherein said control module further comprises a plug member for connecting to an AC power source and an AC-DC transformer for supplying DC power to said control module.

14. The system according to claim 12, wherein said speech receiving member comprises a multi-directional microphone.

15. A control module for controlling a heating, ventilating or air conditioning (HVAC) system, comprising:
a speech receiving member for receiving speech commands;

a converter for converting said speech commands to HVAC system instructions; and

a transmitter for transmitting said HVAC system instructions to said HVAC system.

16. The apparatus of claim 15, wherein said transmitter is a wireless transmitter.

17. The apparatus of claim 15, wherein said transmitter is a transmitter selected from the group consisting of light-based transmitters and radio transmitters.

18. The apparatus of claim 15, wherein said transmitter is an infrared transmitter.

19. The apparatus of claim 15, further comprising an indicator member for identifying a received speech command.

20. The apparatus of claim 19, further comprising a storage member for storing known speech patterns and corresponding indicators, and wherein said converter is adapted to compare said received speech command with said known speech patterns and to output an indicator corresponding to said received speech command.

21. The apparatus of claim 20, wherein said indicator member is a speech simulator and said corresponding indicators are signals for generating speech.

22. The apparatus according to claim 21, wherein said storage member also stores commands for generating HVAC system instructions corresponding to said known speech patterns whereby said control unit acknowledges said received speech command and transmits corresponding HVAC system instructions.

23. The apparatus of claim 15, further comprising a neural network adapted to train said control module for

receiving personalize speech commands, and a storage member for storing personalized speech data and corresponding HVAC system instructions.

24. The apparatus of claim 1, wherein said heating, ventilation or air conditioning system includes an HVAC component which generates a noise zone wherein operating noise of said component is greater than 60 dB A, and wherein said control module is positioned relative to said component outside of said noise zone.

25. A method for operating a system according to claim 1 to control a heating, ventilating or air conditioning (HVAC) component, comprising the steps of:

providing said heating, ventilation or air conditioning component which generates a noise zone wherein operating noise of said component is greater than 60 dB A;

positioning said control module outside said noise zone;

receiving a speech command at said control module;

converting said speech command to HVAC system instructions at said control module; and
sending said HVAC system instructions from said control module to said component.

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Evidence Appendix

None

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Related Proceedings Appendix

None